Abstract

For supporting the cooling of an air-cooled gas turbine set, it is proposed to arrange, in the cooling air ducts of the cooling system, means for increasing the pressure of the flowing cooling air. In an embodiment, the cooling system (17) is supplied with high pressure compressor air from the end stages of the compressor (1) of a gas turbine set (1, 2, 3, 4). This cooling system branches into a first branch (18), by means of which the combustor (2) and the first stages, particularly the first guide blade row of the turbine (3), are cooled. A second branch (19) conducts cooling air to the further turbine stages. An ejector (20) is provided for increasing, as needed, the pressure drop available by means of the first branch (18) of the cooling system. Its ejector nozzle (22) is supplied with live steam (9) taken from a waste heat steam generator (51), the live steam supply being adjustable by means of an adjusting member (21). The invention is found to be generally suitable for flexibly configuring the cooling air initial pressure and thereby the cooling air mass flow.